



A CHRONOLOGY OF NATIONAL SCIENCE, ENGINEERING, AND TECHNOLOGY (SET) ISSUES IN 4-H

- 1862 - President Lincoln signed the Morrill Act creating the Land-Grant System whose objective is *"to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote liberal and practical education of the industrial classes in the several pursuits and professions in life."*
- 1896 - Liberty Hyde Bailey hoped to *encourage rural young people to know and love their environment* by beginning a nature study program.
- 1899 - W. B. Otwell dreamed that young people *could change the world* through the eagerness of youth to try something new, such as applying new farming techniques and technologies, and inspiring others to try new things as well.
- 1902 - A. B. Graham and O.J. Kern shared the *vision of practical education* for rural youth incorporating agricultural education and youth development. Some of the first projects completed were tests on the soil on their farms with litmus paper and selecting the best corn from their father's crop for future planting in test plots.
- 1902 - The focus on three "H's" took hold. *Head, Heart and Hand* were used with an emphasis on making youth fit for self-government, self-control, self-help; a living, thinking being that was later incorporated in a speech given by the President of the National Education Association.
- 1903 - Dr. Seaman Knapp *turned to young boys interested in helping their state's plight* to incorporate new farming techniques and to diversify crops when the Texas cotton industry was plagued by boll weevils.
- 1904 - Jessie Field and O.H. Benson sought to *educate youth "in the practical arts of scientific agriculture"* through the inception of Corn Clubs in Iowa.
- 1906 - W.H. Smith established corn contests that raised awareness to the economic value in raising cash crops like corn as well as their benefits to rural diets.
- ~1906 - With support from USDA agents like O.B. Martin, O.H. Benson, and T.M. Campbell were hired *to bring research to the farmer* by demonstrating new agricultural equipment and techniques across the country.
- 1907 - Tom Marks of Texas *proved the eagerness of youth to participate in science-type projects* when he organized corn growing contests for adults and young boys. While only three adults participated, over eighty boys participated.
- 1910 - O.B. Martin and Marie Cromer *envisioned the scientific and economic value of canning clubs* where young girls learned to safely preserve food cultivated in home gardens.
- 1910 - Gertrude Warren dreamed that youth could be engaged in more than just activities- but should be encouraged in programs which would inspire them to be *lifelong learners of science*, of beauty, and of service.
- 1912 - Marius Malmgren of Hickory, Virginia used farming techniques developed by land-grant universities to yield a crop of 209 bushels of corn on one acre of his father's land while the national average was 45.
- 1914 - President Wilson signed the Smith-Lever Act, designating funds for the agricultural extension service in cooperation with the land-grant colleges.

- 1927 - The first national camp was held on the Mall at Washington, DC. During the week youth met with government leaders and issues in 4-H were addressed such as retaining older members. The 4-H pledge was also adopted and national songs were written.
- 1928 - Three youth testified on behalf of 4-H before the Senate Agricultural Committee, leading to the Capper-Ketcham Act which increased the Extension budget \$1.38 million per year.
- 1931 - Land Grant College Association decided to study club trends and chart a course for the future- Published a statement of objectives in 1935, which were intended to serve as a compass for 4-H work-
1. *To help rural boys & girls develop desirable standards of farming, homemaking, and community life.*
 2. *To give technical instruction- and in so doing give boys and girls a respect for agriculture and homemaking.*
 3. *To use the "learn by doing" method, and give boys and girls a chance to demonstrate to others what they have learned.*
 4. To instill in young minds an appreciation of their rural environment.
 5. *To teach the value of research and develop the scientific attitude.*
 6. To train boys and girls in cooperative action for the solving of rural problems.
 7. To cultivate habits of health and the wise use of leisure; to arouse the desire to keep on learning in order to live richer lives.
 8. *To teach better methods of farming and homemaking, to the end that farm incomes may be increased, standards of living improved, and the satisfactions of farm life enhanced.*
- 1942 - 4-H established 7 national war goals, three of which directly *emphasized advancements in agricultural production*, while the other four dealt with defining responsibilities in the community.
- 1944 - National Advisory Group on 4-H Postwar Programs met to discuss adjustments 4-H would have to make in postwar years. Ten "guideposts" were developed to help young people:
- Develop talents and attitudes for cooperation in work and play
 - Choose a career
 - Create better living environments
 - *Develop a sensitivity toward conserving natural resources*
 - Build a healthier America
 - Share responsibilities for community development
 - "serve as citizens in maintaining world peace"
 - *Continue to improve agricultural advancements*
 - One international-related
- 1944 - National leaders acknowledged the *need for agricultural engineering curriculum* which resulted in the tractor maintenance program.
- 1948 - The National 4-H Club Foundation was established to receive funds and operate programs not otherwise possible under the existing restraints on Extension.
- 1959 - 4-H gathered from across the country to *create a strategy for incorporating more science into 4-H*.
- 1963 - *A Study of the Possibilities of Expanding the Understanding and Use of Science Through 4-H Club Work* by Quisenberry and Seevers recommended developing new science-related projects and adding scientific emphasis to current projects.
- 1967 - To *increase scientific participation by youth*, a national veterinary science project was developed and ready to distribute by 1967.
- 1960s and 1970s - 4-H reached a broader audience by tapping into the nation's television trend through the production of shows like "Mulligan Stew" and "Living in a Nuclear Age" which *educated youth on current nutrition and technology issues*.
- ~1978 -To *address the rising concern of fossil fuel consumption*, 4-H launched a major energy education program.

- 1986** - Extension staff at the National 4-H Triennial Conference identified six objects in 4-H Youth Development:
1. Personal standards and values, positive self concepts, and effective interpersonal and communication skills.
 2. *Inquiring minds; an eagerness to learn; and the ability to apply science, technology, and economic (business) principles.*
 3. Ability to make decisions, solve problems, and accept responsibilities.
 4. Leadership capabilities.
 5. Concern for and involvement in community, national, and international affairs.
 6. Career and lifelong planning and learning.
- 1987** - The Extension Committee on Organization and Policy Subcommittee on 4-H published "Extension's 4-H: TOWARD THE '90s" states: "*One of 4-H's primary values is to transfer new technology into practical application.*"
- 1990** - A National 4-H Vision, Values, and Mission Statement released by National 4-H Council defines the mission of 4-H:
- 4-H will develop youth potential so youth make our community a better place...
 Through helping young people learn to live.
Through helping young people learn to make a living.
 Through helping young people learn to make our communities better.
Through helping young people to become lifelong learners.
- 2000** - First National 4-H Technology Conference held at the University of Maryland focused on *integrating and implementing technology into 4-H programming.*
- 2004** - Third National 4-H Technology Conference held in St. Louis, Missouri. There youth conducted a *GIS service project* in Forest Park, mapping the location of signs, trails, and parking areas which led to an \$800,000 grant for the National Park Service to restore the majority of the grounds.
- 2004** - The 4-H Science and Technology Working Group met to define the future of science and technology in 4-H. They developed this vision statement: *4-H is a recognized leader in providing hands-on non-formal learning experiences that engage youth in a dynamic process of discovery and exploration in science, engineering and technology to develop 21st century skills.*
- 2006** - The Science, Engineering, and Technology (SET) Strategy Meeting was held "*to strategize the direction of the SET mission mandate and to begin to develop an outline for implementation.*"
- 2008** - The Science, Engineering, and Technology (SET) Launch, held on Capitol Hill, *addressed 4-H's commitment to SET and emphasized its five-year effort to prepare an additional 1 million youth to excel in SET fields.*

The mission of National 4-H Headquarters is to advance knowledge for agriculture, the environment, human health and well-being, and communities by creating opportunities for youth. For more information, visit www.national4-headquarters.gov



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 COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE
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